

**Work Order ID 101592**

May-13-13 1:09:28 PM

**\*101592\***

Page 1

**Item ID:** D3916-041

Accept

**\*N900040100\*****Setup Start \*NS1\*****Revision ID:****Stop \*NS2\*****Item Name:** Rib Assembly**Start Date:** 5/13/13 **Start Qty:** 6.00~~\*6\*  
4  
\*6\*~~**Cust Item ID:****Required Date:** 5/13/13 **Req'd Qty:** 6.00**Customer:****Reference:****Approvals:** Process Plan: MUSDate: B0515 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_**Run Start \*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

**Stop \*NR2\***

<b>Sequence ID/ Work Center ID</b>	<b>Operation Description</b>	<b>Set Up/ Run Hours</b>	<b>Tool ID</b>	<b>Tool #</b>	<b>Plan Code</b>	<b>Accept Qty</b>	<b>Reject Qty</b>	<b>Reject Number</b>	<b>Insp. Stamp</b>
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<b>Draw Nbr</b>	<b>Revision Nbr</b>
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D3916	A
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100	
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<b>*100*</b>	
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Large Fab	
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Large Fab	
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100	
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<b>*100*</b>	
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Large Fab	
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100	
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<b>*105*</b>	
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QC	
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Quality Control	
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NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: Date:

QA Closed: Date:

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				<input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update	<input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab	<input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite	<input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier	<input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other			
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions					
						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other					
						<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled					

**Work Order ID 101592**

May-13-13 1:09:28 PM

**\*101592\***

Page 2

**Item ID:** D3916-041**Accept****\*N900040100\*****Setup****Start****\*NS1\*****Revision ID:****Item Name:** Rib Assembly**Stop****\*NS2\*****Start Date:** 5/13/13    **Start Qty:** 6.00**\*6\*****Cust Item ID:****Required Date:** 5/13/13    **Req'd Qty:** 6.00**\*6\*****Customer:****Reference:****Approvals:****Process Plan:****Date:****Tooling:****Date:****Run****Start****\*NR1\*****QC:****Date:****SPC (Y/N):****Date:****Stop****\*NR2\***

<b>Sequence ID/ Work Center ID</b>	<b>Operation Description</b>	<b>Set Up/ Run Hours</b>	<b>Tool ID</b>	<b>Tool #</b>	<b>Plan Code</b>	<b>Accept Qty</b>	<b>Reject Qty</b>	<b>Reject Number</b>	<b>Insp. Stamp</b>
107 <b>*107*</b> Large Fab	Weld per dwg A/R S.S. rod Batch: <i>1023823</i>	0.00							<i>(4) 13-8-15 PD</i>
	Memo	0.00							
	1- weld bushing as per dwg D3916 2- grind welds flush								
110 <b>*110*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O	0.00							<i>(4) 13-8-20</i>
	Memo	0.00							
120 <b>*120*</b> QC Quality Control	QC10- Inspect visual per QSI004- ground welds	0.00							<i>(4) 13-8-20</i>
	Memo	0.00							

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: Date:

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
				Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
				Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
				Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending				Bend <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>				
Centre Not Concentric to O/S				BOM/Route <input type="checkbox"/>	Hardware <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>				
Cracks				Broken/Damaged <input type="checkbox"/>	Inspection Incomplete <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>				
Crushed/Crimped				Burrs <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
Cuffs				Contamination <input type="checkbox"/>	Maintenance <input type="checkbox"/>	Part Moved <input type="checkbox"/>					
Heat Treat				Countersink <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
Inspection Strip in Tube				Cut Too Short <input type="checkbox"/>	Misread <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>					
Ripples in Bend				Drill Holes <input type="checkbox"/>	Offset <input type="checkbox"/>						
Torque Waves in Extrusion				Drawing <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>						
Turning Sequence				Finish <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>						
Wave/Twist in Tube				Folio <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>						

**Work Order ID** 101592

\*101592\*

Page 3

May-13-13 1:09:28 PM

**Item ID:** D3916-041

Accept

\*N900040100\*

Setup

Start

\*NS1\*

**Revision ID:**

**Item Name:** Rib Assembly

Stop

\*NS2\*

**Start Date:** 5/13/13 **Start Qty:** 6.00

\*6\* 4  
\*6\*

Cust Item ID:

**Required Date:** 5/13/13 **Req'd Qty:** 6.00

Customer:

**Reference:**

**Approvals:**

**Process Plan:**

**Date:**

**Tooling:**

**Date:**

Run

Start

\*NR1\*

**QC:**

**Date:**

**SPC (Y/N):**

**Date:**

Stop

\*NR2\*

**Sequence ID/  
Work Center ID**

**Operation  
Description**

**Set Up/  
Run Hours**

**Tool ID**

**Tool #**

**Plan  
Code**

**Accept  
Qty**

**Reject  
Qty**

**Reject  
Number**

**Insp.  
Stamp**

130

Identify as per dwg & Stock Location: WA 4

0.00

(p) 13-820

④

\*130\*

Packaging

Packaging

Memo

0.00

140

QC21- Final Inspection - Work Order Release

0.00

\*140\*

QC

Quality Control

Memo

0.00

MLJ 13-08-21

MLJ 13-08-20

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS								
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>						
Part No. _____ NCR No. _____													
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector				
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup													
Other													
Process													
Supplier													
Training													
Unapproved													
FAULT CATEGORY													
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Other		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	

# Picklist Print

May-13-13 1:09:28 PM

Page 1

Work Order ID: 101592

Parent Item: D3916-041

Parent Item Name: Rib Assembly

Start Date: 5/13/13

Required Date: 5/13/13

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP RevA: New issue DD verified by:EC  
verified by:EC

IPP RevB: as per dwg revA 10.03.15

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3759-1 Bushing		Manufactured	No			100	Each	251.0000	7	42			13-05-15 PD

Location	Loc Qty	Loc Code
WA004	251	
66489	1	
79213	1	
83464	7	
86550	20	
88236	3	
89780	3	
90786	10	
98756	206	

B100808 → (28)

M304TS0.750W.049  
304 SQ Tube .75x.75x.049W

Purchased	No	100	f	1,182.9804	4.166	26.311579
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13-05-15 PD

Location	Loc Qty	Loc Code
MAT017	59.1068084	
124492	59.1068084	
WA006	1123.873556	
123484	29.9999555	
125124	493.8736	
125575	600	

M126325 → (6.664) (17.54)

NCR: Yes / No

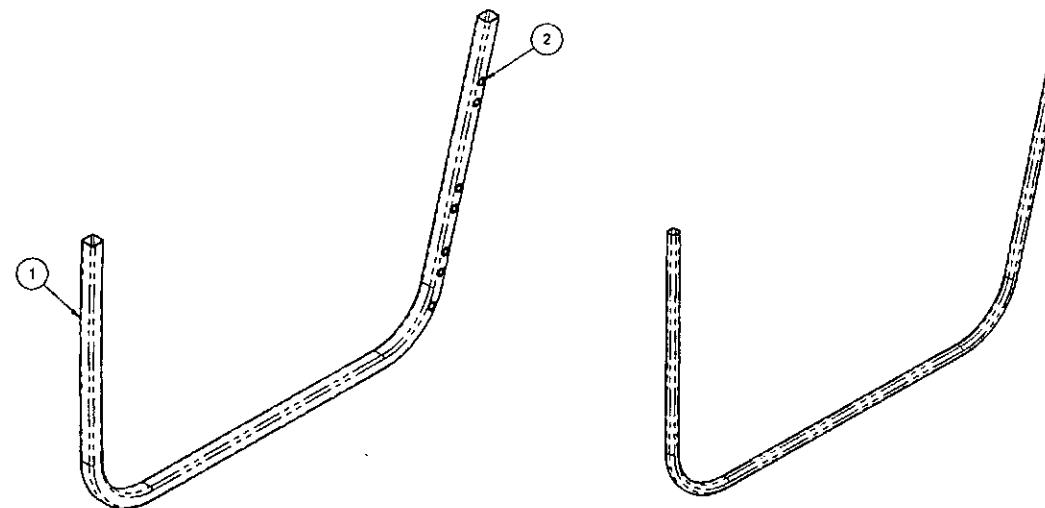
DQA: Date:

## **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: Date:

Work Order: _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
				Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
				Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
				Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	Bend	Grain	Ovalized	Pressure/Forced							
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure							
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect								
Crushed/Crimped	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Weld							
Cuffs	Contamination	Maintenance	Part Moved	Wrong Stock Pulled							
Heat Treat	Countersink	Mislabeled	Positioned Wrong								
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge	Other							
Ripples in Bend	Drill Holes	Offset									
Torque Waves in Extrusion	Drawing	Out of Calibration									
Turning Sequence	Finish	Out of Sequence									
Wave/Twist in Tube	Folio	Outside Dimensions									

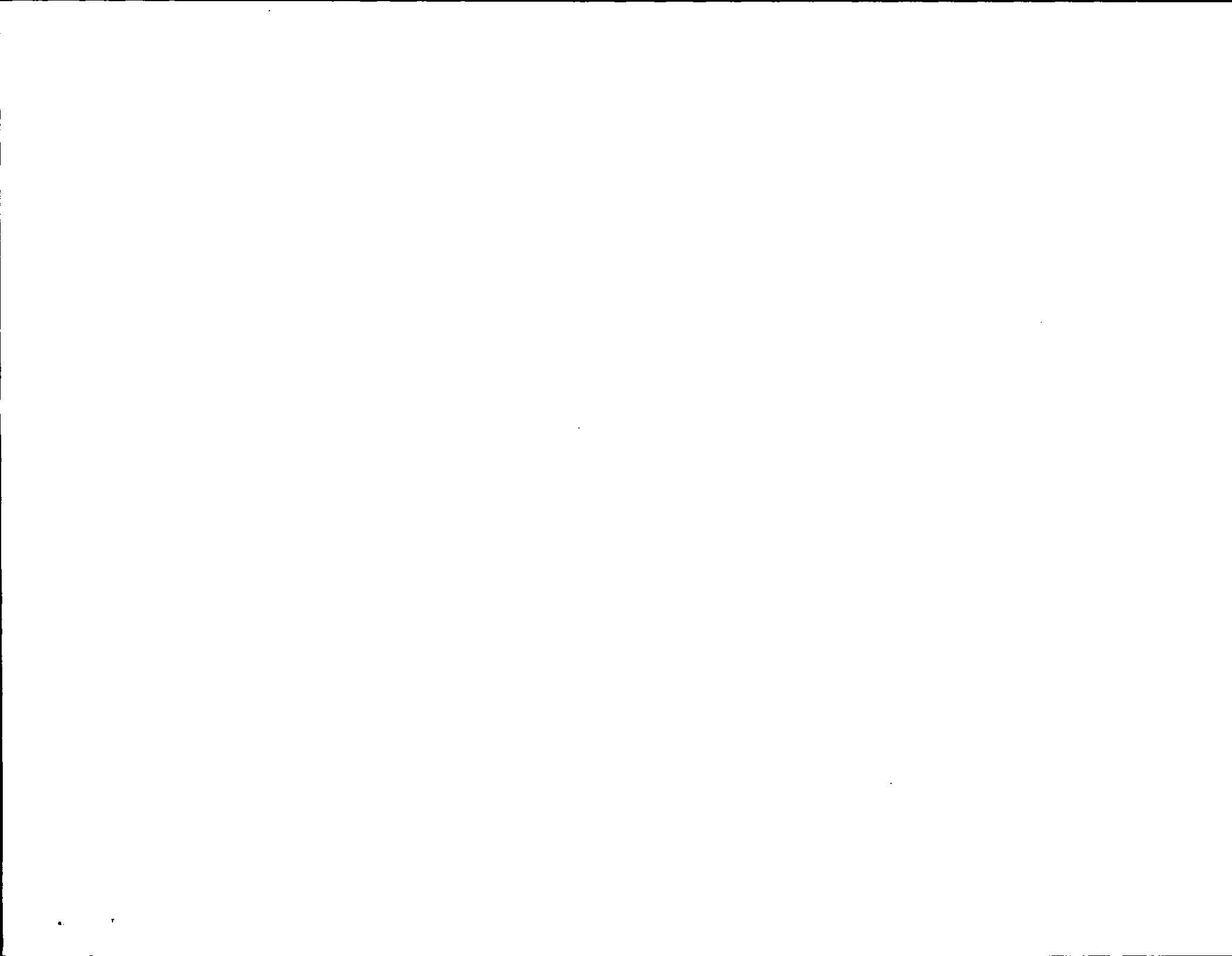
ITEM	QTY	P/N	DESCRIPTION
	X	D3916-041	RIB ASSY
1	1	D3916-1	RIB
2	7	D3759-1	BUSHING



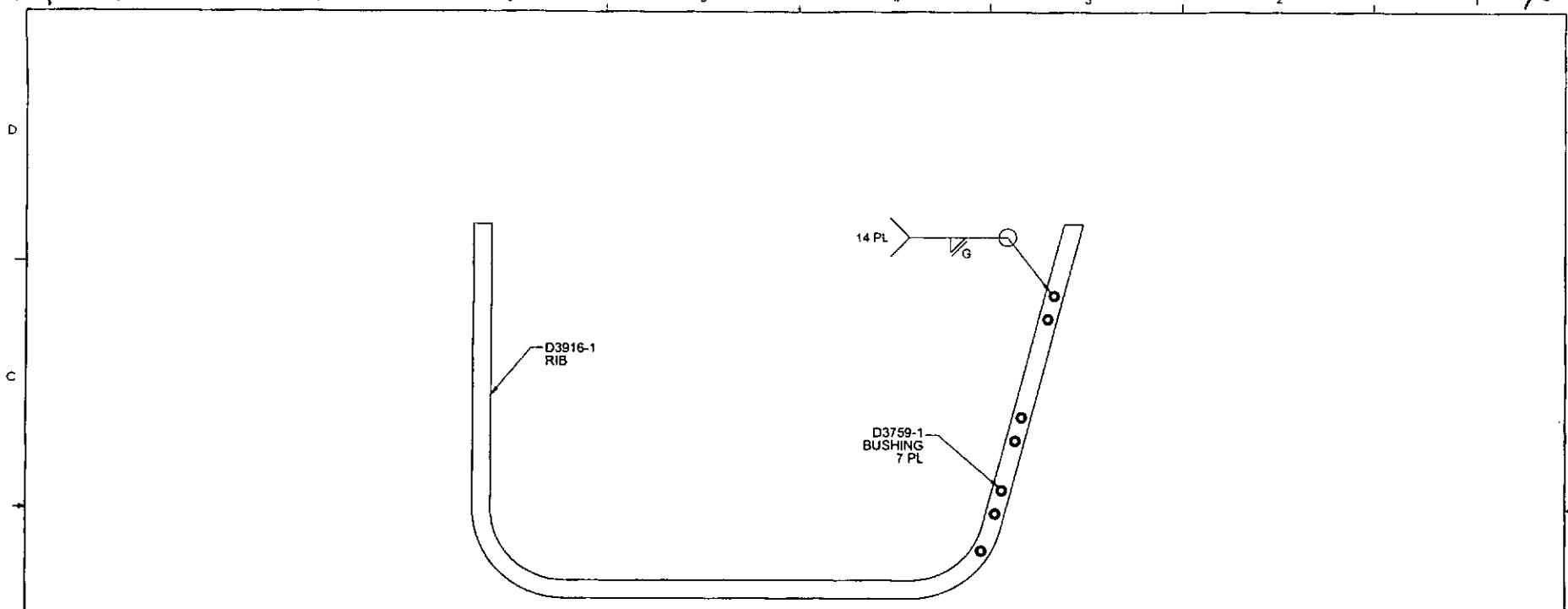
101592 MCL  
13-05-15

OVER 10.12.21  
UNDER REVIEW  
ADDITION OF HOLE + BUSHINGS  
ON D3916-041-1 RIBS.  
**R** RELEASED  
2010-03-12  
JP

A	NEW ISSUE	JPH	10.03.04
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3916	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		RIB ASSY, 350 BASKET	NTS
DATE	10.03.04	COPYRIGHT © 2010 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SHIPPED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE EXCEPT FOR WHICH IT WAS SHIPPED OR FOR OTHER PURPOSE, WITH DUE ATTENTION TO PROPRIETY FROM DART AEROSPACE LTD.	



10592

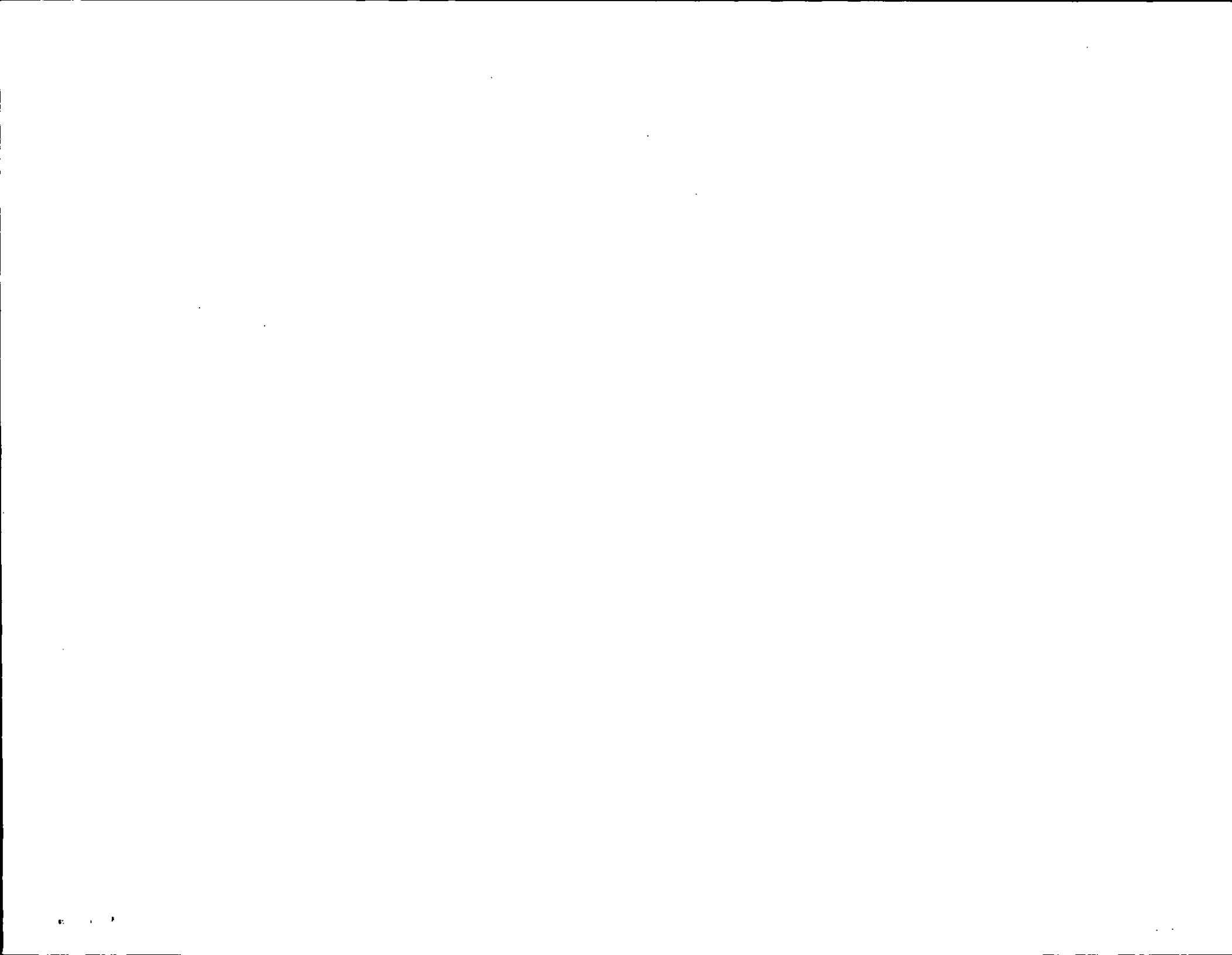
D3916-041 RIB ASSY

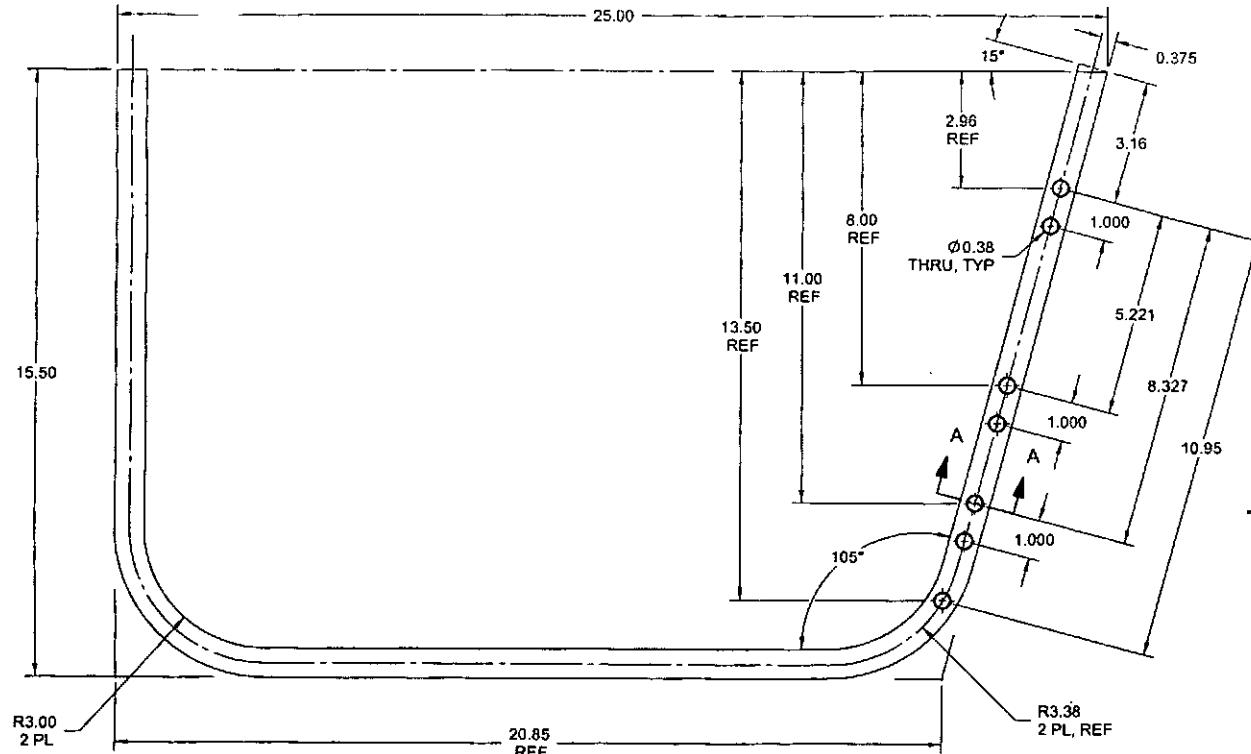
**RELEASED**  
2010-03-12  
*AP*

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT -041: 1.84 lbs
- 8) WELD PER DART QSI 004

DESIGN	AJS	<b>DART AEROSPACE LTD</b>	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	REV. A
CHECKED	<i>CD</i>	DRAWING NO.	SHEET 2 OF 4
MFG. APPR.	<i>EZ</i>	D3916	
APPROVED	<i>NM</i>	TITLE	SCALE
DE APPR.	<i>-</i>	RIB ASSY, 350 BASKET	NTS
DATE	10.03.04	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRINTED AND CONFIDENTIAL AND IS SUPPLIED FOR THE EXPRESS PURPOSE THAT IT IS NOT TO BE COPIED OR REPRODUCED IN WHOLE OR IN PART, NOR IS IT TO BE DISCLOSED TO PERSONS WITHOUT WRITTEN APPROVAL FROM DART AEROSPACE LTD.	





9 D3916-1 RIB

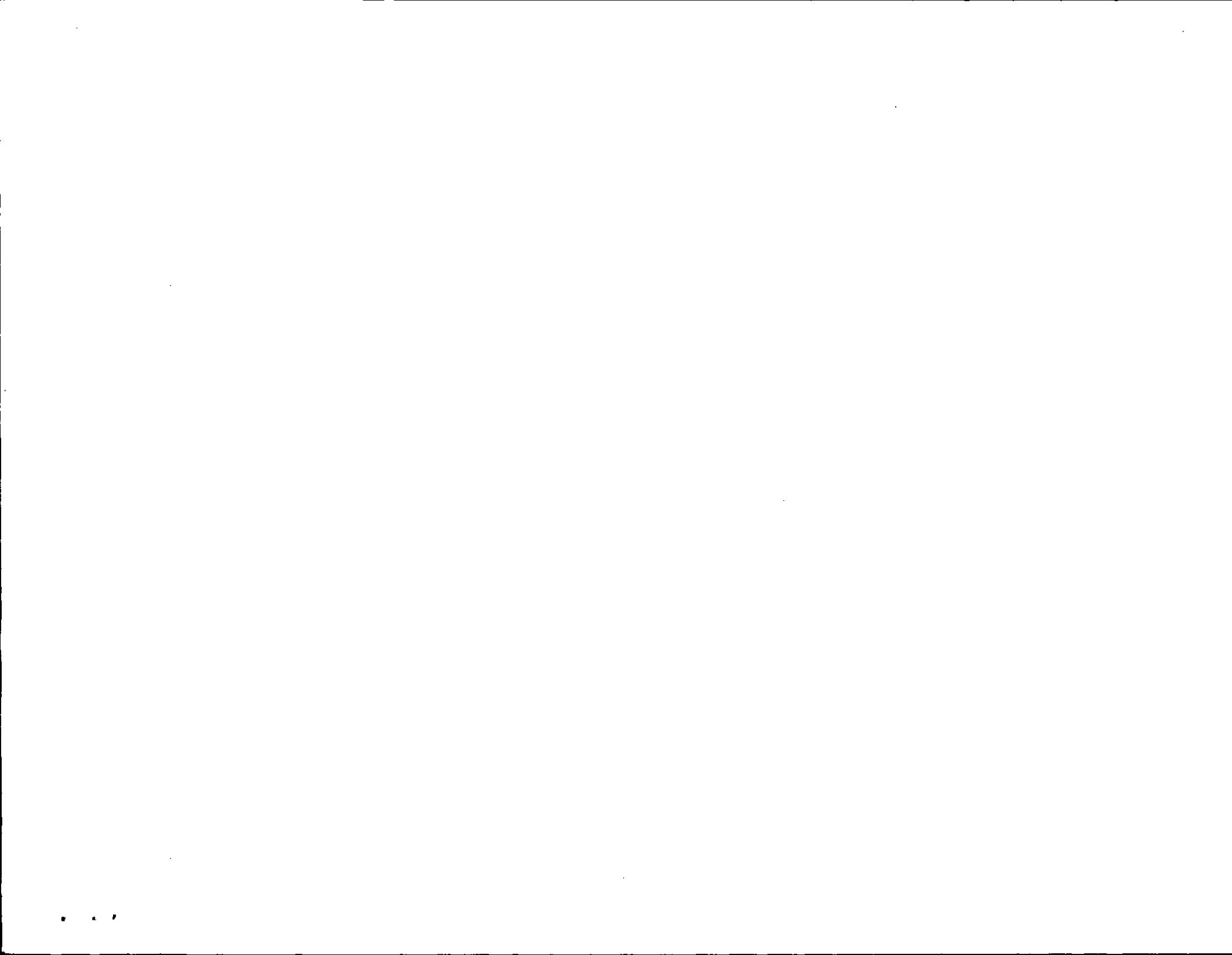
RELEASED  
2010-03-12  
NAP

NOTES:

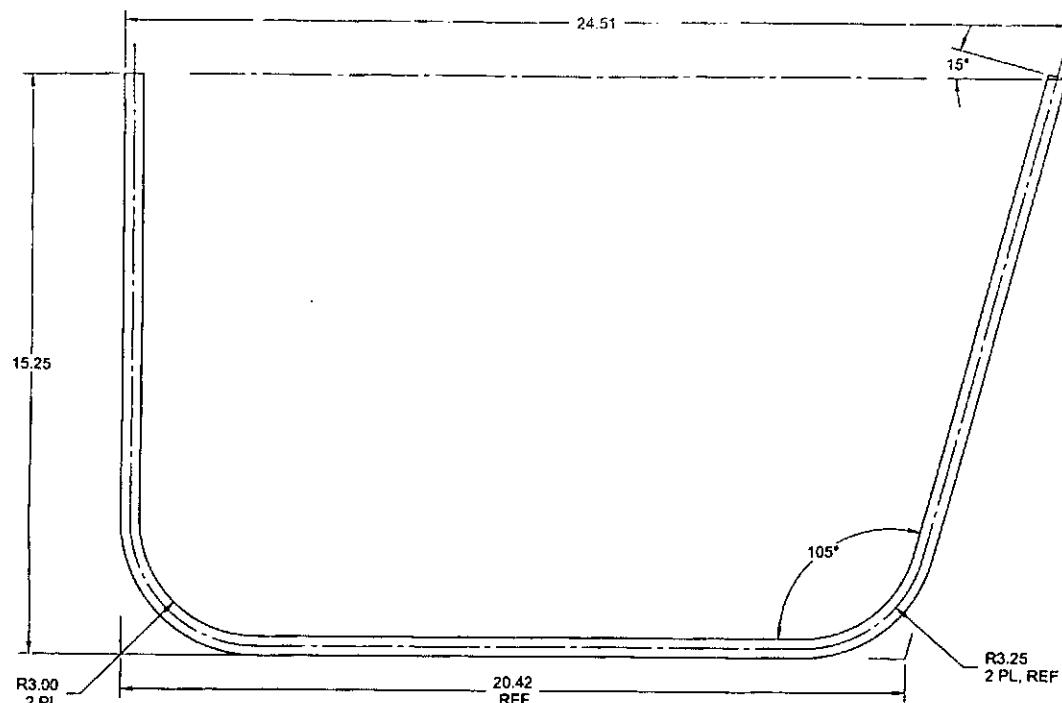
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL  
REF DART SPEC. M304TS0.750W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.76 lbs
- 9) TUBE FLAT LENGTH 50.0 REF

DESIGN	AJS	DART AEROSPACE LTD
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>99</i>	DRAWING NO.
MFG. APPR.	<i>B3</i>	REV. A
APPROVED	<i>NM</i>	SHEET 3 OF 4
DE APPR.	<i>NM</i>	TITLE
DATE	10.03.04	SCALE
		NTS

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WRITTEN PERMISSION FROM DART AEROSPACE LTD.



101592



⑨ D3916-5 LIGHT RIB

## NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL  
REF DART SPEC. M304TS0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.07 lbs
- 8) TUBE FLAT LENGTH 49.5 REF

RELEASED  
2010-03-12  
MP

DESIGN	AJS	DART AEROSPACE LTD
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA
CHECKED	GP	DRAWING NO.
MFG. APPR.	ZP	REV. A
APPROVED	N/A	D3916
DE APPR.	N/A	TITLE
DATE	10.03.04	SCALE
		NTS

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